

REMARKS

Claims 1-9, 11-29 and 64-70 are currently pending in the above-referenced application. Claims 30-63 have been withdrawn from consideration. Claim 10 has been previously cancelled. Claim 12 has been amended to correct a typographical error. No new matter has been added. Reconsideration and allowance of the above-identified application are respectfully requested in view of the foregoing amendments and the following remarks.

Claim Rejections under 35 U.S.C. § 103

Claims 1-9, 11-13, 15, 17-29 and 67 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Narumiya et al. (US 6,217,928) ("Narumiya") in view of Lamb (US 6,399,667) ("Lamb"). Applicant respectfully traverses this rejection for reasons that follow.

The present invention, in one embodiment, is directed to a method of freezing food for later thawing and use, having steps of packing the food product in a sealed container for freezing, cooling the food substantially throughout the bulk thereof to approximately 10°C to 0°C in approximately 1 to 10 minutes, and cooling the food substantially throughout the bulk thereof to approximately 0°C to -10°C in approximately 10 to 40 minutes; and wherein the cooling steps include placing the food in a calorie exchange relationship with circulating air and dry ice in a high calorie exchange cooling unit.

Narumiya and Lamb completely fail to teach or disclose the claimed invention. For example, neither Narumiya nor Lamb disclose or suggest the method of freezing food wherein the cooling steps include placing the food in a calorie exchange relationship with circulating air and dry ice in a high calorie exchange cooling unit as required by independent claims 1 and 17. This limitation -- nowhere disclosed or suggested by Narumiya or Lamb -- provides a significant advantage over the prior art in that it provides very rapid calorie exchange, via a solid to gas

phase change, thereby providing optimal freezing conditions. Therefore, Applicant respectfully submits that the subject matter of independent claims 1 and 17 and dependent claims 2-9, 11-16, 18-29 and 64-70 are allowable and that the rejection should be withdrawn.

Importantly, the Office Action never even *alleges* that Narumiya – or Lamb – discloses this claimed feature. Instead, the Office Action, in a paragraph spanning two pages, lists a number of claim elements that Narumiya allegedly teaches, but completely fails to mention the step of placing the food in a calorie exchange relationship with circulating air and dry ice in a high calorie exchange cooling unit, as required by independent claims 1 and 17. The Office Action then acknowledges that Narumiya fails to teach “controlling an incident angle between dry ice in the freezer and a circulation of air within the freezer,” which is an element of claim 15. *See* Office Action, page 4. The Office Action then alleges that Lamb discloses a fan, being positioned at an angle, that helps direct air into the channels and under the dry ice, and then concludes that it would have been obvious “to modify the disclosure of Narumiya et al. and to control an incident angle between dry ice in the freezer and a circulation of air within the freezer to enhance the efficiency of heat transfer as taught by Lamb et al.” *See* Office Action, page 5.

As an initial matter, the arguments in the Office Action with respect to Lamb relate to supplying the subject matter of claim 15 which is admittedly missing from Narumiya, and not to supplying the missing step of placing the food in a calorie exchange relationship with circulating air and dry ice in a high calorie exchange cooling unit, as required by independent claims 1 and 17. This makes sense because Lamb, in fact, fails to teach or suggest a method for freezing food that supplies the missing step of placing the food in a calorie exchange relationship with circulating air and dry ice in a high calorie exchange cooling unit, as required by independent claims 1 and 17. In contrast to the claimed invention, Lamb teaches a device for chilling the

inside portion of an airplane service cart and has nothing to do with a method for freezing food. Accordingly, Lamb fails to cure the deficiencies of Narumiya. The rejection fails for the additional reason that Lamb and Narumiya are not even combinable. A person of skill in the art would not look to the airplane food cart chilling device of Lamb to solve problems in the very different food freezing art. Indeed, chilling an airplane food cart bears no relation to the heat exchange required of freezing food. Lamb, in fact, teaches away from such heat exchange by teaching that the bunker containing dry ice is *insulated* “[i]n order to prevent the very cold bunker 42 from over-chilling the trays mounted beneath it.” Thus a person of ordinary skill in the art would not combine Narumiya with Lamb as suggested in the Office Action.

In view of the foregoing, independent claims 1 and 17 are allowable over the combination of Narumiya and Lamb and the rejection under 35 U.S.C. § 103 should be withdrawn. In addition, dependent claims 2-9, 11-16, 18-29 and 64-70, which depend from either claim 1 or 17, are allowable for the same reasons as discussed above.

Dependent claim 9, which recites that the food product is sushi, is allowable over Narumiya for the independent reason that Narumiya fails to disclose a step of packaging sushi prior to cooling. Contrary to the implication in the Office Action that Narumiya discloses pre-freezing packaging of sushi, Narumiya explicitly states that “[a]side from sushi, boiled rice or processed food with boiled rice as its main component, for instance onigiri, may be frozen in a similar process. More specifically, boiled rice or the like is disposed in a non-packed or packed state in a freezer, and then freezing is started.” Col. 6, ll. 59-63 (emphasis added). In sum, Narumiya teaches that foods aside from sushi may be disposed in a packed state in a freezer. Thus, Applicant requests that the rejection of claim 9 be withdrawn for this additional independent reason. The Office Action completely failed to address this argument.

Dependent claim 15 is allowable over Narumiya in view of Lamb for the separate and independent reason that the combination does not disclose adjusting a variable cooling feature in a method for freezing food by “controlling an incident angle between dry ice in said freezer and a circulation of air within said freezer” as required by claim 15. As stated above, Lamb relates to an apparatus for chilling an airplane service cart that discloses that fans are “positioned at an angle.” Lamb does not disclose a method of freezing food, a variable cooling feature for freezing food, or “controlling an incident angle between dry ice in said freezer and a circulation of air in said freezer” in any way. Lamb does not teach controlling the angle of anything

The Office Action states that “Lamb discloses importance of directing air at specific angle, and thus it would have been obvious to control an incident angle between dry ice in freezer and a circulation of air within the freezer to enhance the efficiency of heat transfer as taught by Lamb et al.” However, nothing in Lamb teaches, suggests or motivates one to control an incident angle as contended by the Office Action or recited in the claim. Moreover, as explained above, Lamb and Narumiya are not combinable. For these separate and independent reasons, claim 15 is allowable over the art of record and the rejection be withdrawn. Again, the Office Action failed to address these arguments by Applicant.

The Office Action also rejected dependent claims 14 and 16 under 35 U.S.C. § 103(a) as being unpatentable over Narumiya in view of Lamb and Grewar (US 4,325,221) (“Grewar”). As an initial matter, claims 14 and 16 are allowable for the same reasons discussed above in connection with claim 1. Claims 14 and 16 are allowable over the combination of Narumiya, Lamb and Grewar for the independent reason that a person of ordinary skill in the art would not combine Grewar with Narumiya or Lamb. Grewar teaches a flash freezing technique in which “the carcass will be subjected to direct contact with a cryogenic liquid and the cold gas evolved

therefrom. The amount of cryogenic liquid directed at the carcass is sufficient temporarily to freeze and thus seal the surface membranes to prevent the egress of moisture from the carcass.” Col. 3 ll. 7-12. Narumiya teaches away from the flash freezing technique of Grewar, criticizing a process including “blowing liquified gas against the rice” by stating, “[i]n either of the above techniques, a significant problem is posed by the quick freezing sushi ... the rice ball part as shown in FIG. 3, does not always provide for good taste, and the quality of food is extremely deteriorated compared to non-frozen sushi.” Col. 3, ll. 4-5, 22-31. Thus, Narumiya teaches away from techniques such as those disclosed by Grewar and claims 14 and 16 are allowable for this independent reason. Applicant therefore respectfully requests that the rejection be withdrawn. Again, the Office Action completely failed to address these arguments.

CONCLUSION

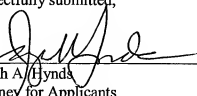
In view of the foregoing amendments and remarks, Applicant respectfully submits that each of the presently pending claims in this application is in condition for allowance. Accordingly, the Examiner is respectfully requested to withdraw the outstanding rejection of claims and to pass this application to issue. If it is determined that a further telephone conference with the undersigned would expedite the prosecution of this application, the Examiner is invited to telephone the undersigned at the number given below.

In the event that this response is not timely filed, Applicant hereby petitions for an appropriate extension of time and requests that the corresponding fee be charged to Deposit Account No. 02-2135.

The Commissioner is hereby authorized to charge any fees and to credit any overpayments that may be required by this paper under 37 C.F.R. §§ 1.16 and 1.17 to Deposit Account No. 02-2135.

Respectfully submitted,

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